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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/618,059

07/11/2003

Brian J. Schwartz

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11/29/2006

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EXAMINER

SHAKERI, HADI

ART UNIT

PAPER NUMBER

3723

DATE MAILED: 11/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/618,059

Applicant(s)

SCHWARTZ ET AL.

Examiner

Hadi Shakeri

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 13-16 and 18-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13-16 and 18-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. <u>20061125</u> |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION***Specification***

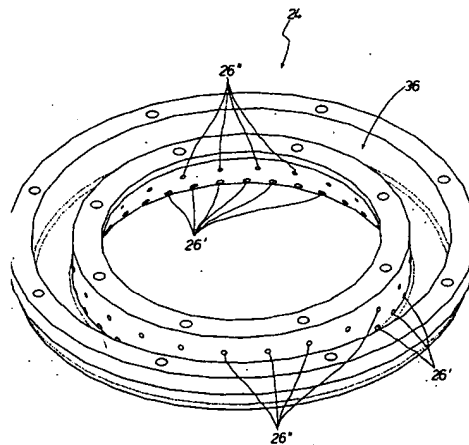
1. The disclosure is objected to for lack of sufficient support for a limitation in a claim. As indicated in the previous office actions, claims 16-19 recite for an embodiment wherein one outlet discharges more than one stream. The rejections of claims under 112 1st paragraph is withdrawn since applicant had possession of the embodiment as evident by original claim 9 and that one of ordinary skill in the art would have known how to modify one inlet to provide multiple steam by routine experiment, and rejection under 112 2nd (previously applied) is also withdrawn since the scope is clear. However, the arguments that one of ordinary skill in the art would have known how to modify one inlet to provide multiple steam by routine experiment, e.g., by providing slits in the outlet (even though this would effectively define more than one "outlet") or by a complex shape, are not sufficient to exclude the specification as originally filed to provide description for such embodiment.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 10, 11 and 13-15 are finally rejected under 35 U.S.C. 102(e) as being anticipated by DE 202 16 396.

DE '396 discloses all of the limitations of claim 10, i.e., a machine tool having an elongated abrasive bit (14,16 and/or grinding or milling tool) a coolant nozzle having at least one coolant inlet (24); a plurality of



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coolant outlet 926) or (26', 26'') oriented to discharge coolant obliquely (Fig. 11) arranged with circumferential spacing of no more than 72 degrees for each adjacent two outlets in either circumferential direction, wherein the nozzle further includes one or more passageways (36) defined by internal surface portions between the inlet and the outlet.

Regarding claims 11, 13-15, DE '396 meets the limitations, i.e., coolant outlets at common radial position (26, Fig. 8); no more coolant outlet than the ones circumferentially positioned; 360 degrees and the coolant being angled (sloped neck).

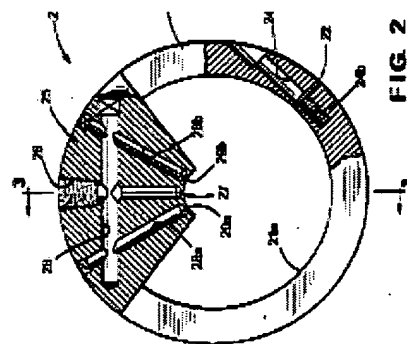
Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-11, 13-16 and 18-26 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Reitmeyer (6,471,573).

Reitmeyer meets all of the limitations of claims 1, 10, 16 and 20, i.e., a coolant nozzle having at least one coolant inlet (26); a plurality of coolant outlet (27, 29a, 9b) oriented to discharge coolant obliquely (Fig. 3), wherein the nozzle further includes one or more passageways (28) defined by internal surface portions between the inlet and the outlet, except for disclosing outlets to be arranged with circumferential spacing of no more than 72 degrees for each "adjacent" two outlets in either circumferential directions and for the method of forming the nozzle, i.e., sintered. Reitmyer



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discloses in (03:59-62) that "any desired number of such outlet ports 27, 29a, and 29b may be located in any desired positions relative to the tool 12".

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the invention of Reitmeyer with more outlet ports (e.g., 5, spaced substantially around the adaptor) with spacing of no more than 72 degrees, in adapting the device for a particular application and since it has been held that changing shape, dependent on work-piece parameters, involves only routine skill in the art. *In re Stevens*, 101 US PQ 284(CCPA1954).

The method of forming the device, i.e., sintered body, is not germane to the issue of patentability of the device itself. However, sintering to make the device last longer and/or to protect it against corrosion, is known in the art and such modification would have been well within the knowledge of one of ordinary skill in the art.

Regarding claims 2-11, 13-15, 19 and 21-26, Reitmeyer as modified above meets the limitations, i.e., common radial position at unique angle; not more coolant outlet than the one circumferentially positioned; angled outlet (Fig. 3); wherein more than one outlet is provided, thus workpiece blocking one, would still be covered by others; wherein the bit is elongated superabrasive.

With regards to claim 19, the modified prior art discloses the claimed invention except for the use of the specific materials. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use ceramic, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

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6. Claims 10-11, 13-15 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Reitmeyer (6,471,573) in view of DE '396.

Reitmeyer meets all of the limitations of the above claims, as indicated above, except for disclosing outlets to be arranged with circumferential spacing of no more than 72 degrees for each "adjacent" two outlets in either circumferential directions. DE '396 teaches a coolant nozzle with outlets surrounding the tool. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the invention of Reitmeyer with more outlet ports as taught by DE '396, in adapting the device for a particular application.

7. Claims 1-9, 16, and 18-26 finally are rejected under 35 U.S.C. 103(a) as being unpatentable over Reitmeyer in view of Perkins et al.

Reitmeyer modified with respect to shape, as indicated above in section 5, meets all of the limitations of the above claims, except for nozzle with sintered body, number of outlets, the size, and the types of the bit. All obvious modifications to one of ordinary skill in the art in view of Perkins et al. and depending on the intended use, workpiece/operational parameters, as indicated above in sections 5 and 6 above.

8. Claims 1-9, 16, and 18-26 finally are rejected under 35 U.S.C. 103(a) as being unpatentable over DE '396 either alone or in view of Perkins et al.

DE '396 modified with respect to choice of material as indicated above, or in view of Perkins et al. further modified in light of combination with known tools, depending on the intended use, as indicated above meets all the limitations.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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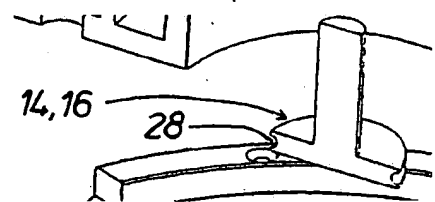
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Response to Argument

10. Applicant's arguments filed October 04, 2006 have been fully considered but they are not persuasive.

The arguments regarding the rejections of claims 16-19 over 112 1st and 2nd paragraph are persuasive and the rejections are withdrawn, however as indicated above the specification is objected to for not providing sufficient description for a claimed embodiment wherein one outlet produces several streams.

11. The arguments regarding the anticipation rejections of claims 10, 11 and 13-15 over DE '396 are not persuasive. Applicant argues that DE '396 fails to disclose an "elongated" abrasive bit. DE '396 discloses in Fig. 10 an "elongated" abrasive bit (14, 16), since the length of the bit which includes the shaft is longer than its width and as such is considered to meet the broad definition of an "elongated" abrasive bit. It is noted that while claims are interpreted in view of specification, limitations are not read into the claims, thus even a polishing disk as disclosed is considered to meet the limitation. Further DE '396 discloses in the ABSTRACT that the device may have a rotary tool such as a grinding or polishing disc or



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a milling tool. It is noted that while rotary grinding tool covers elongated shapes, a milling tool is inherently elongated.

Applicant further argues that DE'396 discloses two sets of outlets (26') and (26'') failing to meet the limitation of "no other" element in claim 10 and fails to meet the limitations of claim 11. This is not found persuasive as was indicated in the previous office action because, firstly with regards to claim 10, there is no recitation in the claim to exclude outlets (26') or (26'') from reading over the invention, i.e., a plurality of coolant outlets is met by (26') and (26'') and the recitation that "there being no other coolant outlets in addition to the plurality of the coolant outlets" fails to exclude outlets (26') or (26''), further the embodiment as shown in Fig. 8 and 9, i.e., only one group of outlets (26) meets the limitations of claim 10. With regards to claim 11, "common radial position" relative to the axis is met by the embodiment of Fig. 8 and 9 where there is only one outlet (26).

12. The arguments regarding the obviousness rejections of claims 1-11, 13-16 and 18-26 over Reitmeyer are not persuasive. Applicant argues that the disclosure of Reitmeyer that any desired number of outlets and at any desired location may be provided, is taken by the office as if it discloses all numbers and positions. This argument is in error, if that were the case the reference would have been applied under anticipation rather than obviousness. This passage in Reitmeyer is taken by the office for what it discloses, i.e., that other embodiments are envisioned wherein any number outlets at any desired location may be provided. One embodiment for such disclosure would be providing more outlets, e.g., 10 in the same arrangement as disclosed, i.e., an annular array that is concentric about the tool, which would meet the limitation of the outlets not being positioned more than 72 degrees. Such embodiment would clearly have been obvious to one of ordinary skill in the art without undo experimentation depending on the workpiece and/or operational parameters, because Reitmeyer discloses that

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although in the illustrated embodiment only three outlets in an annular array that is concentric about the tool are shown, "any" number of outlets may be used and that they may be positioned any "any" desired location to reduce heat and friction during the operation (Reitmeyer 04:15-17).

Applicant further argues against the modification of using a sintered body that there is no motivations or suggestions to make such modification. This is not found persuasive since as was indicated in the pervious office action, any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In this case it is well within the knowledge of one of ordinary skill in the art to use ceramic or sintering method for durability and/or to protect against corrosion. It is also noted with regards to argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, using sintered body for its desired properties e.g., high strength, is well within the knowledge of one of ordinary skill in the art.

Applicant argues that Reitmeyer fails to disclose a supper abrasive bit. Firstly claims 1-11, 13-16, 18-20, and 21-26 recite an abrasive bit, or abrasive quill, which is met by the bit (12) as disclosed by the reference. Secondly only claim 22, recites for a "superabrasive quill" which fails to recite structure (e.g., number, size, type of the abrasive grain) to read over the bit as

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disclosed by Reitmeyer. The argument against the redundancy of the coverage and claim 19 (five outlets and one inlet) is not persuasive, since Reitmeyer is modified in view of its own disclosure that different number of outlet may be used, and using 10, or 5 annular concentric arrangement (as disclosed) with one inlet (as disclosed) meets the claims limitations.

13. The argument against the obviousness rejections of claims 10, 11, and 13-15 over Reitmeyer in view of DE'396, that it is merely hindsight is not persuasive. Reitmeyer disclosed the use of more outlets to reduce heat and friction, and DE'396 teaches using a plurality of outlets closely placed together in an annular configuration, clearly teaching all the limitations and the motivation provided at least by the base reference.

14. The argument against the obviousness rejections of claims 10, 11, and 13-15 over Reitmeyer in view of Perkins et al., that it is merely hindsight is not persuasive. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In this case Perkins et al. clearly teaches using sintered ceramic for durability and/or to protect against corrosion.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071,

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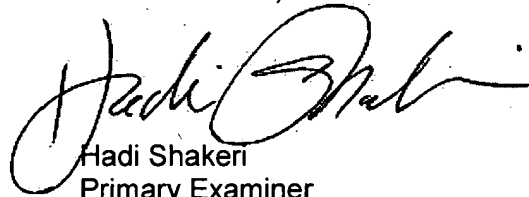
5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case Perkins teaches the use of sintered ceramic in nozzles, for its desired properties where a nozzle with high strength is required.

Applicant fails to provide persuasive arguments against the rejection over DE'396 in view of Perkins et al. for the same reasons as indicated above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hadi Shakeri whose telephone number is 571-272-4495. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph J. Hail, III can be reached on 571-272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Hadi Shakeri
Primary Examiner
Art Unit 3723

November 26, 2006